The Aligned Magnetic Field with Convective Boundary Conditions over a Stretching Sheet in a Viscous Fluid

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Abstract

In this study, the aligned magnetic field on the flow of a viscous fluid over a stretching sheet with convective boundary conditions is analyzed. The governing nonlinear boundary layer equations is transformed into ordinary differential equations and then solved numerically by Keller-box method. The numerical solutions with different values of aligned angle, Prandtl number and magnetic field are presented graphically and tabular form. It is found that the velocity profile, skin friction coefficient and Nusselt number decreases with the increasing of aligned angle and magnetic field. Similarly, increment in Prandtl number decreases the temperature profile.